

Remarks

Claims 1-12 are pending in the application. Claim 9 has been indicated as having allowable subject matter. Claims 1-2, 4-5, and 7-12 have been amended. Reconsideration and re-examination of the application is respectively requested for the reasons set forth herein.

1. The Examiner has objected to claim 1, line 6, because the phrase "the socket having electrical contacts which engage the terminals on the second side of the circuit board" is vague and indefinite. Claim 1 has been amended to state that "said socket having electrical contacts which physically engage the terminals on said second side of said circuit board" as suggested by the Examiner. In view of this amendment, removal of the objection to claim 1 is respectfully requested.

The Examiner has objected to claim 10, because the phrase "terminals are fed through a side of the neck" is vague and indefinite. Claim 10 has been amended to state that "said terminals are fed through the circumferential surface of said neck and are folded along the circumferential surface of said neck" as suggested by the Examiner. In view of this amendment, removal of the objection to claim 10 is respectfully requested.

The Examiner has objected to claims 4, 7, and 11, because the claim limitation "back cover" is vague and indefinite. Claims 4, 7, and 11 have been amended to state "that the socket has a surface on a back portion of the socket" as suggested by the Examiner and already shown in the drawings. Additionally, the language "back cover" in claims 2 and 8 has been amended to "the surface on the back portion of said socket." The specification has also been amended to correspond with the language of the claims. In view of these amendments, removal of the objection to claims 4, 7, and 11 is respectfully requested.

The Examiner has objected to claim 12, because the phrase "the circuit board is arranged between the socket and the neck" is vague and indefinite. Claim 12 has been amended to state that "the circuit board is arranged between the socket and the funnel" as suggested by the Examiner. In view of this amendment, removal of the objection to claim 12 is respectfully requested.

Claim 9 has been amended to correct a typographical error. Claim 1 has been amended to include a transitional phrase as required by U.S. Patent and Trademark Office practice. Approval of these amendments is respectively requested.

2. The Examiner has rejected claims 1, 4-7, and 10-12 under 35 U.S.C. 102(b) as being anticipated by Puhak (U.S. Patent No. 4,165,143).

With regard to claim 1, the Examiner stated that Puhak shows an arrangement for coupling a cathode ray tube 15 to a socket 27, which is mounted on a circuit board 35. The cathode ray tube 15 has a funnel and a neck 11, 15 having an end 17, a circumferential surface, and terminals 25 that extend from an electron gun. Said terminals 25 are positioned along the circumferential surface of the neck 11, 15. The circuit board 35 is positioned with a first side facing the funnel portion and a second side facing away from the funnel portion. The socket 27 has electrical contacts 33 that engage the terminals 25 on the second side of the circuit board 35. The electrical contacts are positioned on the second side of the circuit board 35. The Examiner, therefore, concluded that Puhak teaches all the elements of claim 1.

Claim 1 states that the cathode ray tube has "a neck containing an electron gun, the neck having an end, a circumferential surface and terminals extending from said electron gun, said terminals positioned along the circumferential surface of the neck." Puhak teaches an electron tube socket securing means with a finned type base structure 11 mounted on a terminal closure portion of an electron discharge device, which for example, may be a sealed

neck portion of a cathode ray tube 15. Electrical connector leads or pins 25 protrude from the sealed neck portion 13 of the cathode ray tube 15. The electrical connector leads or pins 25 transverse receiving apertures in a planar portion 17 of the finned type base structure 11 where they are isolated by an annular array of spaced apart longitudinal fins 23 arranged in parallel. Unlike the claimed invention that requires the terminals to be positioned along the circumferential surface of the neck, the connector leads or pins 25 of Puhak extend from the neck 15 onto an outer circumferential surface of a finned type base structure 11 "mounted on" (column 2, line 44) the sealed neck portion 13 of the cathode ray tube 15. As such, the connector leads or pins 25 are not mounted along the circumferential surface of the neck, but are mounted on an outer circumferential surface of a finned type base structure 11 set in the sealed neck portion 13. Puhak, therefore, does not teach all the elements of claim 1.

Removal of the rejection of claim 1 under 35 U.S.C. 102(b) is respectfully requested.

Claims 4 and 10-11 depend from claim 1. Because Puhak does not teach all the elements of claim 1, Puhak does not teach all the elements of claims 4 and 10-11. Moreover, Puhak does not teach all the elements of claim 10, which states that said terminals are fed through the circumferential surface of said neck and are folded along the circumferential surface of said neck. Puhak teaches electrical connector leads or pins 25 which protrude from a sealed neck portion 13 of a cathode ray tube 15 that are arranged in parallel in an annular array around an outer surface of a finned type base structure 11 that is mounted on the sealed neck portion 13 of the cathode ray tube 15. Removal of the rejection of claims 4 and 10-11 under 35 U.S.C. 102(b) is respectfully requested.

With regard to claim 5, the Examiner stated that Puhak shows a funnel and an integral neck 11, 15 extending rearward from the funnel. An electron gun is positioned within the funnel. Terminals 25 extend from the electron gun through the neck 11, 15 and along an outer surface of the neck 11, 15. A circuit board 35 has a socket 27 that can be used for

electrically connecting components mounted thereon. The socket 27 is electrically connected to the components and is directly mateable with the terminal 25 that extends along the outer surface of the neck 11, 15. The socket 27 has a distal end 39 that is flush with a distal end 17 of the neck 11, 15 when the socket 27 is mated. The Examiner, therefore, concluded that Puhak teaches all the elements of claim 5.

Claim 5 has been amended to state that the socket has an end distal from the circuit board that is flush with a distal end of the neck when the socket is mated. Puhak teaches an electron tube socket securing means wherein a circuit board 35 is attached to a flat surface of a socket 27. The socket 27 and the circuit board 35 have corresponding openings 29, 37 for accommodating the placement of a finned type base structure 11 that is mounted on a sealed neck portion 13 of the cathode ray tube 15. As shown in Figure 2 and discussed in column 3, lines 15-20 of Puhak, the length of the finned type base structure 11 is such that when the finned type base structure 11 is received in the openings 29, 37, a terminal portion of a crown 19 protrudes from a parallel surface 41 which is opposite from the flat surface 39 attached to the circuit board 35. Unlike the claimed invention that requires the socket to have an end distal from the circuit board that is flush with a distal end of the neck when the socket is mated, the sealed neck portion 13 of the cathode ray tube 15 is positioned adjacent to the flat surface 39 attached to the circuit board 35 and the finned type base structure 11 protrudes from the parallel surface 41 which is opposite from the flat surface 39 and the circuit board 35. Puhak, therefore, does not teach all the elements of claim 5. Removal of the rejection of claim 5 under 35 U.S.C. 102(b) is respectively requested.

Claims 6-7 and 12 depend from claim 5. As previously discussed, Puhak does not teach all the elements of claim 5. Because Puhak does not teach all the elements of claim 5, Puhak does not teach all the elements of claims 6-7 and 12. Moreover, Puhak does not teach all the elements of claim 7, which states that the socket has a surface on a back portion of the

socket which abuts the distal end of the neck. Because the finned type base structure 11 of Puhak protrudes from a parallel surface 41 of the socket 27 distal from the circuit board 35, the finned type base structure 11 neither abuts a surface on a back portion of the socket nor abuts the distal end of the neck positioned flush with a distal end of the socket. Removal of the rejection of claims 6-7 and 12 under 35 U.S.C. 102(b) is respectfully requested.

3. The Examiner has rejected claims 2, 3, and 8 under 35 U.S.C. 103(a) as being unpatentable over Puhak (U.S. Patent No. 4,165,143) in view of Johnson et al. (U.S. Patent No. 3,944,892).

With regard to claims 2 and 8, the Examiner stated that Puhak shows all the elements of claims 2 and 8 as previously discussed, except the circuit board having a plurality of components mounted thereon wherein none of the components extend away from the funnel further than the back cover of the socket. The Examiner further stated that Johnson et al. shows a circuit board 75 having a plurality of components mounted thereon wherein none of the components extend away from the funnel further than the back cover of the socket. The Examiner, therefore, concluded that it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the component configuration shown by Johnson et al. on the circuit board of Puhak because if the components are mounted on the other side of the circuit board, it would not make it possible to use wire 86 to electrically connect at least one of the plurality of components to the funnel.

Claim 2 depends from independent claim 1. As previously discussed, Puhak does not teach all the elements of claim 1. Because Puhak does not teach all the elements of claim 1, Puhak does not teach all the elements of claim 2, except said circuit board having a plurality of components mounted thereon wherein none of said components extend away from said funnel further than the back cover of said socket. Additionally, Johnson et al. teaches in

Figure 4 and column 5, lines 24-33, pin terminals 37 mounted on a back side of a board 75 that extend away from the neck portion 39 further than a back portion of a socket 83 that is mounted on the board 75. The combination of Puhak in view of Johnson et al., therefore, does not teach or suggest all the elements of claim 2. Removal of the rejection of claim 2 under 35 U.S.C. 103(a) is respectively requested.

Claim 8 depends from independent claim 5. As previously discussed, Puhak does not teach all the elements of claim 5. Because Puhak does not teach all the elements of claim 5, Puhak does not teach all the elements of claim 8, except said circuit board having a plurality of components mounted thereon wherein none of said components extend away from said funnel further than the back cover of said socket. Additionally, Johnson et al. teaches in Figure 4 and column 5, lines 24-33, pin terminals 37 mounted on a back side of a board 75 that extend away from the neck portion 39 further than a back portion of a socket 83 that is mounted on the board 75. The combination of Puhak in view of Johnson et al., therefore, does not teach or suggest all the elements of claim 8. Removal of the rejection of claim 8 under 35 U.S.C. 103(a) is respectively requested.

With regard to claim 3, the Examiner stated that Puhak shows all the elements of the claim as previously described, except said circuit board having a plurality of components mounted on said first side. The Examiner further stated that Puhak shows a circuit board having a plurality of components mounted on a first side. The Examiner, therefore, concluded that it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the component configuration shown by Johnson et al. on the circuit board of Puhak because if the components are mounted on the other side of the circuit board, it would not make it possible to use wire 86 to electrically connect at least one of the plurality of components to the funnel.

Claim 3 depends from claim 1. As previously discussed, Puhak does not teach all the elements of claim 1. Because Puhak does not teach all the elements of claim 1, Puhak does not teach all the elements of claim 3, except said circuit board having a plurality of components mounted on said first side. Additionally, Johnson et al. teaches in Figure 4 and column 5, lines 24-33, pin terminals 37 mounted on a back side of a board 75 that extend away from the neck portion 39 further than a back portion of a socket 83 that is mounted on the board 75. The combination of Puhak in view of Johnson et al., therefore, does not teach or suggest all the elements of claim 3. Removal of the rejection of claim 3 under 35 U.S.C. 103(a) is respectively requested.

In view of the amendments and arguments presented herein, the application is considered to be in condition for allowance. Reconsideration and passage to issue is respectfully requested.

Please charge any additional fees associated with this application to Deposit Order Account No. 07-0832.

Respectfully submitted,

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